



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/242,096 05/26/99 KEMP

M R0346/7016

TM02/0228

RONALD J KRANSDORF
WOLF GREENFIELD & SACKS
FEDERAL RESERVE PLAZA
600 ATLANTIC AVENUE
BOSTON MA 02210-2211

EXAMINER

PENDLETON, B

ART UNIT

PAPER NUMBER

2644

DATE MAILED:

02/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/242,096

Applicant(s)

KEMP, MICHAEL J.

Examiner

Brian T. Pendleton

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

Art Unit: 2644

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-3, 5-7, 10-12, 14-16 and 19-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Kitamura, US Patent 6,055,502. Kitamura discloses an apparatus comprising filter 16, volume control signal 20, and memory 24 having stored impulse responses in audio response filter data 26. As disclosed in the abstract and column 2 line 62 – column 3 line 5, selects an impulse response according the volume control input signal, thereby meeting claims 1 and 10. Per claims 2 and 11, inherently an impulse response is chosen and the audio stream 14 is convoluted with the impulse response to generate an output signal. Per claims 3 and 12, the impulse response is chosen based on the volume control signal 20 (its amplitude). Per claims 5-7 and 14-16, the interpolator 52 determines an impulse response when the volume control signal level is between the levels in memory 24 by applying adjacent impulse responses corresponding to the closest control signal levels in the memory (interpolating). See column 5 lines 21-30. Per claims 19-22, audio response filter data 26 stores impulse responses.

Claims 1-3, 5-7, 9-12, 14-16 and 18-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Inanaga et al, US Patent 5,495,534. Inanaga et al disclose signal detectors 5L, 5R which in cooperation with ultrasonic speaker 13 detect the angular position of an user. As shown in figure 6 and disclosed in column 10 lines 1-13, an interpolation element 61 interpolates between two impulse responses stored in memory 62 corresponding to the angular position signal (input signal) and convolutes the audio signal from element 24 with a generated impulse response, meeting claims 1-3 and 10-12. Per claims 5-7 and 14-16, there is disclosed interpolation. Per claims 9 and 18, the input signal is a time dependent variable. Per claims 19-22, memory 22 stores impulse responses.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura or Inanaga et al in view of Opitz, US Patent 5,544,249. Kitamura and Inanaga et al disclose an apparatus/method for processing audio effects by assessing the amplitude of an input signal and selecting an impulse response according to the assessment. However, the references do not disclose that the impulse response is applied when the amplitude of the input signal is above or below a predetermined

Art Unit: 2644

threshold. Opitz discloses a method of simulating a room impression comprising determining a room impulse response, and reducing the room response when the amplitude of an input signal is above a threshold value. See abstract. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Opitz in the inventions of Kitamura or Inanaga et al. As stated in column 3 lines 42-46, because the method only determines a reduced room impulse response during certain durations and when higher than a threshold value, the volume of calculations is reduced, thereby motivating one of ordinary skill in the art to use it.

Claims 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inanaga et al or Kitamura. Kitamura and Inanaga et al disclose an apparatus/method for processing audio effects by assessing the amplitude of an input signal and selecting an impulse response according to the assessment. However, the references do not disclose selecting an impulse response in accordance with user input. However, it was well known at the time of invention to simulate audio sounds in accordance with user input, e.g. stereo system, television receiver, therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to apply that teaching to Inanaga et al or Kitamura.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

Art Unit: 2644

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-9508 for regular communications and (703) 308-5403 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

btp
February 17, 2001



FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2700